

1MA1 Practice papers Set 2: Paper 1F (Regular) mark scheme – Version 1.0				
Question	Working	Answer	Mark	Notes
1.		7.8	B1	cao
2.		7	B1	cao
3.		7.84	B1	cao
4.		25	B1	cao
5.	(a)	2, 3, 6, 7, 8	2	B2 for 2, 3, 6, 7, 8 (B1 for any 3 or 4 correct, no extras <b>or</b> 2, 3, 6, 7, 8 seen with at most one extra)
	(b)	3,8	1	B1 cao
6.	(a)(i)	23	2	B1 cao
	(ii)	284		B1 cao
	(b)(i)	71 + 95 or 91 + 75	2	B1 for showing addition of 71 and 95 <b>or</b> 91 and 75
	(ii)	166		B1ft for the sum of their two numbers given provided they used only the digits 5, 1, 7 and 9 exactly once each
7.	(a)	(4, 2)	1	B1 cao
	(b)	(-3, 0) plotted	1	B1 cao

### 1MA1 Practice Papers: Set 2 Regular (1F) mark scheme – Version 1.0

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8.	(a)		1	B1 for correct diagram, accept squares drawn at either end shaded or unshaded. Ignore internal lines.
	(b)		1	B1 cao
	(c)		1	B1 cao
9.		3 and 12	2	M1 for using two numbers that are both factors of 24 <b>or</b> using two numbers that sum to 15 and one is a factor of 24  A1 for 12 and 3
10.		Triangle drawn	2	M1 for a triangle with at least one side of length 5 cm ( $\pm 0.2$ ) or at least one angle $60^\circ$ ( $\pm 2^\circ$ )  A1 for a correct triangle
11.	$14 + 19 = 33$ $57 - 29 = 28$ (or -28) $9 \times 4 = 36$	the <b>product</b> of 9 and 4 has the <b>greatest</b> value	3	M1 for evidence of one correct operation e.g. $14 + 19$ <b>or</b> 33 <b>OR</b> $57 - 29$ <b>or</b> 28 <b>or</b> $29 - 57$ <b>or</b> -28 <b>OR</b> $9 \times 4$ <b>or</b> 36  A1 33, 28 (or -28) <b>and</b> 36  C1 (dep on M1) ft for a statement identifying the correct calculation (not the biggest answer) from three calculated values

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Question	Working	Answer	Mark	Notes
12.	(a)	08 12	1	B1 cao
	(b)	6	2	M1 for evidence of counting on 15 minutes from 09 20, could be shown with table  A1 cao
	(c)	17 35	1	B1 cao
13.	(a)	60	2	M1 for $300 \div 5$ or $3 \div 5$ (or equivalent)  A1 cao
	(b)	25p or £0.25	3	M1 for $100 \div 5 (= 20)$  M1 for “20” $\div 80$ or “20” $\times 100 \div 80$  A1 for 25p or £0.25  <b>OR</b> M1 for $80 \times 5 (= 400)$  M1 for $100 \div “400”$ or $100 \times 100 \div “400”$  A1 for 25p or £0.25  <b>OR</b> M1 for $100 \div 80 (= 1.25)$  M1 for “1.25” $\div 5$ or “1.25” $\times 100 \div 5$  A1 for 25p or £0.25

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Question	Working	Answer	Mark	Notes
14.		5.7	3	<p>M1 for <math>20 - 8.6</math> (=11.4)</p> <p>M1 for '11.4' <math>\div 2</math></p> <p>A1 cao</p> <p><b>or</b></p> <p>M1 for <math>2x + 8.6 = 20</math> (or equivalent)</p> <p>M1 for clear intention to subtract 8.6 from each side</p> <p>A1 cao</p>
15.	(a)	5	1	B1 cao
	(b)	evens	1	B1 cao
	(c)	$\frac{2}{6}$	2	<p>M1 for <math>\frac{a}{6}</math> where <math>a &lt; 6</math> <b>or</b> <math>\frac{2}{b}</math> where <math>b &gt; 2</math></p> <p>A1 for <math>\frac{2}{6}</math> (or equivalent)</p>

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Question	Working	Answer	Mark	Notes																																
16.	$\begin{array}{r} 1195 \\ 4780 + \\ \hline 5975 \end{array}$ <table border="1" style="margin-left: 20px;"> <tr><td></td><td>2</td><td>3</td><td>9</td><td></td></tr> <tr><td></td><td>0/4</td><td>0/6</td><td>1/8</td><td>2</td></tr> <tr><td>5</td><td>1/0</td><td>1/5</td><td>4/5</td><td>5</td></tr> <tr><td></td><td>9</td><td>7</td><td>5</td><td></td></tr> </table> <table border="1" style="margin-left: 20px;"> <tr><td></td><td>200</td><td>30</td><td>9</td></tr> <tr><td>20</td><td>4000</td><td>600</td><td>180</td></tr> <tr><td>5</td><td>1000</td><td>150</td><td>45</td></tr> </table> $4000 + 1000 + 600 + 150 + 180 + 45 = 5975$		2	3	9			0/4	0/6	1/8	2	5	1/0	1/5	4/5	5		9	7	5			200	30	9	20	4000	600	180	5	1000	150	45	Kirsty's Plants with correct calculations	5	<p>M1 for complete method with relative place value correct. Condone 1 multiplication error, addition not necessary.</p> <p>M1 (dep) for addition of all the appropriate elements of the calculation or digits 5975</p> <p>M1 for a complete method to find 120% of £52.50</p> <p>A1 for 59.75 and 63(.00)</p> <p>C1 (dep on M2) for correct conclusion for their figures</p> <p><b>OR</b></p> <p>M1 for the start of a method to divide £52.50 by 25, eg 2 rem 2</p> <p>M1 for a complete method to divide £52.50 by 25, condone one arithmetic error, or digits 21</p> <p>M1 for a complete method to find 120% of '£2.10'</p> <p>A1 for 2.52</p> <p>C1 (dep on M2) for correct conclusion for their figures</p> <p><b>OR</b></p> <p>M1 for a complete method to find 120% of £52.50</p> <p>M1 for the start of a method to divide '63' by 25, e.g.. 2 rem 13</p> <p>M1 for a complete method to divide '63' by 25, condone one arithmetic error, or digits 252</p> <p>A1 for 2.52</p> <p>C1 (dep on M2) for correct conclusion for their figures</p>
	2	3	9																																	
	0/4	0/6	1/8	2																																
5	1/0	1/5	4/5	5																																
	9	7	5																																	
	200	30	9																																	
20	4000	600	180																																	
5	1000	150	45																																	

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Question		Working	Answer	Mark	Notes
<b>17.</b>	(a)		8	1	B1 for 8 (.00)
	(b)		550	4	M1 for $600 - 200 (= 400)$  M1 for correct method to convert '\$400' to £  M1 (dep on the previous M1) for $800 - '400'$ in £s  A1 for value in the range 540 –560  <b>OR</b>  M1 for correct method to convert \$600 <b>and</b> \$200 to pounds  M1 for '375'–'125'  M1 (dep on the previous M1) $800 - '250'$  A1 for a value in the range 540-560  <b>OR</b>  M1 for correct method to convert £800 to dollars  M1 for '1280' + 200 – 600  M1 (dep on the previous M1) for attempt to convert '\$880' back to £  A1 for value in the range 540 – 560

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Question	Working	Answer	Mark	Notes
<b>18.</b>	$1.96 \times 2.25 = 4.41$  <b>OR</b> $4.23 \div 9 = 0.47$ $1.96 \div 4 = 0.49$  <b>OR</b> $4.23 \times 4 = 16.92$ $1.96 \times 9 = 17.64$  <b>OR</b> $4.23 \div 9 = 0.47$ $0.47 \times 4 = 1.88$  <b>OR</b> $1.96 \div 4 = 0.49$ $0.49 \times 9 = 4.41$  <b>OR</b> $9 \div 4.23 = 2.12$ $4 \div 1.96 = 2.04$	Pack of 9	3	M2 for a fully correct method to enable a conclusion eg $1.96 \times 2\frac{1}{4}$  <b>OR</b> M1 for $4.23 \div 9$ or $423 \div 9$ <b>or</b> 0.47 seen <b>or</b> 47 seen M1 for $1.96 \div 4$ or $196 \div 4$ <b>or</b> 0.49 seen <b>or</b> 49 seen  <b>OR</b> M1 for $4.23 \times 4$ <b>or</b> $423 \times 4$ <b>or</b> 16.92 seen <b>or</b> 1692 seen M1 for $1.96 \times 9$ <b>or</b> $196 \times 9$ <b>or</b> 17.64 seen <b>or</b> 1764 seen  <b>OR</b> M1 for $4.23 \div 9$ <b>or</b> $423 \div 9$ <b>or</b> 0.47 seen <b>or</b> 47 seen M1 for $0.47 \times 4$ <b>or</b> $47 \times 4$ <b>or</b> 1.88 seen <b>or</b> 188 seen  <b>OR</b> M1 for $1.96 \div 4$ <b>or</b> $196 \div 4$ <b>or</b> 0.49 seen <b>or</b> 49 seen M1 for $0.49 \times 9$ <b>or</b> $49 \times 9$ <b>or</b> 4.41 seen <b>or</b> 441 seen  <b>OR</b> M1 for $9 \div 4.23$ <b>or</b> 2.12(...) seen <b>or</b> 2.13 seen M1 for $4 \div 1.96$ <b>or</b> 2.04(...) seen  A1 for Pack of 9 and fully correct calculations  <b>NOTE:</b> B0 for an answer of 9 not supported by working.
<b>19.</b>	(a)		1	M1 $90 \div 1.5 (=60)$
			1	M1 $240 \div 60 (= 4 \text{ hours})$
		13:30	1	A1
	(b)	Assumption and affect	1	C1 e.g. assumed constant speed – if not constant than could arrive earlier or later. Assumed no stops – if stop then will arrive later

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Question	Working	Answer	Mark	Notes
20.		Rotation Centre (0,0) 90° clockwise	3	B1 for rotation  B1 for 90° clockwise or 270° anticlockwise  B1 for (0, 0) or <i>O</i> or origin  NB: a combination of transformations gets B0
21.	$(7 \times 2 + 2 \times 5) \times 200 = 4800$  $4800 \times 8$	38 400 g	5	M1 for $7 \times 2$ or $2 \times 5$ or $7 \times 7$ or $5 \times 5$ or $2 \times 2$  M1 for ' $7 \times 2$ ' + ' $2 \times 5$ ' (or equivalent) or ' $7 \times 7$ ' – ' $5 \times 5$ '  M1(dep on first M) for ' $24$ ' $\times$ 200 or ' $0.0024$ ' $\times$ 2  M1 for ' $4800$ ' $\times$ 8 or ' $0.0048$ ' $\times$ 8 000 000 or ' $0.0048$ ' $\times$ 8000  A1 for 38 400g or 38.4kg  (SC B3 for any answer including digits 384)



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22.	(a) $y = 3x + 5$ <table border="1" style="margin-left: 20px;"> <tr> <td><math>x</math></td> <td>-2</td> <td>-1</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td><math>y</math></td> <td>-1</td> <td>2</td> <td>5</td> <td>8</td> <td>11</td> <td>14</td> </tr> </table>	$x$	-2	-1	0	1	2	3	$y$	-1	2	5	8	11	14	Correct line from $(-2, -1)$ to $(3, 14)$	3	<p><b>(Table of values / calculation of values)</b></p> <p>M1 for at least 2 correct attempts to find points by substituting values of <math>x</math>.</p> <p>M1 ft for plotting at least 2 of their points (any points plotted from their table must be correctly plotted)</p> <p>A1 for correct line between <math>x = -2</math> and <math>x = 3</math></p> <p><b>(No table of values)</b></p> <p>M1 for at least 2 correct points with no more than 2 incorrect points</p> <p>M1 for at least 2 correct points (and no incorrect points) plotted</p> <p><b>OR</b> line segment of <math>y = 3x + 5</math> drawn                      A1 for correct line between <math>x = -2</math> and <math>x = 3</math></p> <p><b>(Use of <math>y = mx + c</math>)</b></p> <p>M1 for line drawn with gradient of 3  <b>OR</b> line drawn with a <math>y</math> intercept of 5</p> <p>M1 for line drawn with gradient of 3  <b>AND</b> line drawn with a <math>y</math> intercept of 5</p> <p>A1 for correct line between <math>x = -2</math> and <math>x = 3</math></p> <p>SC : B2 for the correct line from <math>x = 0</math> to <math>x = 3</math></p>
$x$	-2	-1	0	1	2	3												
$y$	-1	2	5	8	11	14												

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	(b)	$3 \times 6 + 5 = 18 + 5$  <b>Or</b>  $24 - 5 = 19$ $19 \div 3$	Correct explanation	2	M1 $3 \times 6 + 5$ or “18” + 5 or (6, 23)  C1 for 23 seen and correct conclusion  or  M1 $24 - 5$ or “19” $\div 3$  C1 for $\frac{19}{3}$ (or equivalent) or 6.3... seen and correct conclusion
<b>23.</b>	(a)	$1 - 0.37$	0.63	1	B1 for 0.63 (or equivalent)
	(b)	$0.37 \times 500$	185	2	M1 for $0.37 \times 500$  A1 cao  SC B1 for 200

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24.	$4000 - \left(\frac{10}{100} \times 4000\right) = 3600$ $3600 - \left(\frac{10}{100} \times 3600\right)$	3240	3	<p>M1 for <math>4000 - \frac{10}{100}</math> or <math>0.9 \times 4000</math> (or equivalent) or 3600 or 400 or 3200 or 800 seen</p> <p>M1 (dep) 10 "3600" – <math>\frac{10}{100} \times</math> "3600" or "3600" <math>\times</math> 0.9 (or equivalent)</p> <p>A1 cao</p> <p><b>or</b></p> <p>M2 for <math>29.04000 \times 0.9^2</math></p> <p>(M1 for <math>4000 \times 0.9^3</math>)</p> <p>A1 cao</p> <p>[SC: B2 for an answer of £4840, with or without working]</p>
25.	$0.38 \times 10^{-1}, 3800 \times 10^{-4},$ $0.038 \times 10^2, 380$	Correct order	2	<p>M1 changing any one correctly or at least 3 in the correct order (ignoring one) or reverse order</p> <p>A1 for correct order (accept any form)</p>

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26.		48	5	<p>M1 for <math>8 - 2 (= 6)</math></p> <p>M1 (indep) for <math>x^2 + 8^2</math> (provided <math>x \leq 8</math>)</p> <p>M1 (dep on previous M1) for <math>\sqrt{(x^2 + 8^2)}</math> or <math>\sqrt{100}</math></p> <p>M1 (dep on M2) for <math>4 \times 2 + 4 \times "10"</math></p> <p>A1 cao</p>

National performance data from Results Plus

Qu No	Source of questions				Topic	Max score	Mean % all	Mean scores of students achieving grade:					
	Spec	Paper	Session	Qn				ALL	C	D	E	F	G
1				New	Conversions	1	No data available						
2				New	Percentages	1	No data available						
3				New	Decimals	1	No data available						
4				New	Index laws	1	No data available						
5	5MM1	1F	1206	Q09	Venn diagrams	3	79	2.36	2.68	2.55	2.43	2.20	1.96
6	1MA0	1F	1311	Q05	Substitute into expressions	4	72	2.88	3.26	3.00	2.85	2.69	2.45
7	5MM1	1F	1406	Q09	Coordinates in 2D	2	92	1.83	1.96	1.90	1.84	1.82	1.63
8	2540	1F	0811	Q08	Pattern sequences	3	77	2.32	2.63	2.41	2.21	1.96	1.53
9	5MM1	1F	1506	Q09	Factors, multiples, primes	2	77	1.53	1.94	1.79	1.58	1.27	0.80
10	1MA0	1F	1311	Q21	Constructions	2	80	1.59	1.87	1.74	1.57	1.37	1.13
11	5MM1	1F	1306	Q12	Four operations	3	65	1.95	2.57	2.39	2.06	1.61	1.06
12	1MA0	1F	1506	Q07	Time calculations	4	49	1.96	2.87	2.44	2.05	1.60	1.18
13	1MA0	1F	1406	Q14	Money calculations	5	35	1.73	2.99	2.36	1.86	1.34	0.86
14	5MM1	1F	1406	Q12	Decimals	3	52	1.56	2.65	2.14	1.67	0.73	0.19
15	1MA0	1F	1411	Q10	Probability	4	59	2.36	2.82	2.53	2.28	1.98	1.67
16	1MA0	1H	1506	Q04	Percentages - VAT	5	79	3.96	4.04	2.97	1.52		
17	1MA0	1H	1303	Q06	Conversion graphs	5	62	3.11	3.06	2.11	1.30		
18	1MA0	1F	1206	Q19	Ratio	3	27	0.81	1.73	1.00	0.51	0.20	0.08
19				New	Compound measures	4	No data available						
20	5MM1	1F	1211	Q27	Transformations	3	32	0.96	2.32	1.45	0.81	0.33	0.33
21	1380	1F	1106	Q29	Compound measures	5	10	0.52	1.25	0.58	0.27	0.13	0.07
22	5MM1	1H	1306	Q09	Graphs of linear functions	5	79	3.94	3.67	2.46	1.00	0.89	1.67
23	5MM1	1H	1211	Q09	Probability	3	71	2.12	1.80	1.33	2.00		
24	1380	1H	1006	Q19	Compound interest	3	70	2.09	1.59	0.96	0.58		
25	1MA0	1H	1211	Q20	Standard form	2	60	1.20	1.20	0.73	0.46		
26	1MA0	1H	1511	Q13	Derive expressions	3	8	0.23	0.22	0.08	0.05		
						<b>80</b>							